

## ABSTRACT

A hollow fiber membrane gas separation apparatus of a compact design suitable for separation and purification of gases is disclosed. The apparatus comprises an outer housing that consists of a detachable bowl and a head closure, and a removable hollow fiber membrane cartridge positioned therein. The cartridge contains a concentric tubular inner core member and is surrounded by a shell and at least one end closure. The cartridge is attached by its first axial end in a sealed and removable manner to a gas flow conduit positioned coaxially in the housing closure wherein said conduit being in fluid communication with a gas inlet or product gas outlet port formed in the housing head closure and by its second axial end to a waste gas exit port in the bowl. The feed gas inlet port and the product gas outlet port in the head closure are spaced in a straight line for a short overall distance providing for a liner connection with other components of a gas separation system, which is a preferred system component packaging.